

## **REMARKS**

### **I. Introduction**

Claims 16 to 30 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

### **II. Rejection of Claims 16 to 23, 29, and 30 Under 35 U.S.C. § 102(b)**

Claims 16 to 23, 29, and 30 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,676,811 ("Makino et al."). It is respectfully submitted that Makino et al. does not anticipate the present claims for at least the following reasons.

To anticipate a claim, each and every element as set forth in the claim must be found in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). That is, the prior art must describe the elements arranged as required by the claims. In re Bond, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). In other words, to be anticipatory, a single prior art reference must show all of the limitations of the claims arranged or combined in the same way as recited in the claims. Net Moneyin, Inc. v. Verisign, Inc., 545 F.3d 1359 (Fed. Cir. 2008). To the extent the Examiner is relying on the doctrine of inherent disclosure in support of the anticipation rejection, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied art." (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic.

Claim 16 relates to a sensor element for determining a concentration of a target gas component in a gas mixture, including, *inter alia*, the features of *an external electrode exposed to the target gas component and situated in a first cavity formed in the solid electrolyte body*, a second cavity formed in the solid electrolyte

body on an opposite side of the solid electrolyte body from the first cavity, the electrical resistance heater being situated between the first cavity and the second cavity, in which *each of the first cavity and the second cavity has an opening to the outside on opposite sides of the solid electrolyte body*. Support for the amendments may be found in the Substitute Specification, e.g., at page 5, lines 25 to 26; page 7, lines 3 to 5; and Figures 1 to 5.

Makino et al. does not disclose, or even suggest, all of the claimed features of claim 16. The Office Action at page 2 asserts that Figures 18 and 19 of Makino et al. show electrode 7 residing in a cavity. However, Makino et al. plainly shows that electrode 7 is merely situated on a surface of electrolyte sheet 35 and covered by a protector 10. Thus, Makino et al. does not disclose the feature of *an external electrode ... situated in a first cavity formed in the solid electrolyte body*. Further, Makino et al. does not disclose that each of the first cavity and the second cavity has an opening to the outside on opposite sides of the solid electrolyte body. Instead, Figures 18 and 19 of Makino et al. merely show a “solid electrolyte sheet 35” on one side and a “solid electrolyte sheet 11” on an opposite side, neither of which includes an opening to the outside. Col. 14, lines 19 to 20 (emphasis added). Thus, neither opening 18 nor opening 39 in Figure 19 of Makino et al. includes an opening to the outside. Therefore, Makino et al. does not disclose, or even suggest, the features of *an external electrode exposed to the target gas component and situated in a first cavity formed in the solid electrolyte body*, and a second cavity formed in the solid electrolyte body on an opposite side of the solid electrolyte body from the first cavity, in which *each of the first cavity and the second cavity has an opening to the outside on opposite sides of the solid electrolyte body*.

Accordingly, Makino et al. does not disclose, or even suggest, all of the features included in claim 16. As such, it is respectfully submitted that Makino et al. does not anticipate claim 16.

As for claims 17 to 23, 29, and 30, which ultimately depend from and therefore include all of the features included in claim 16, it is respectfully submitted that Makino et al. does not anticipate these dependent claims for at least the same reasons more fully set forth above.

In view of all the foregoing, withdrawal of this rejection is respectfully requested.

### **III. Rejection of Claims 24 and 25 Under 35 U.S.C. § 103(a)**

Claims 24 and 25 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Makino et al. and U.S. Patent No. 6,652,987 (“Allen et al.”). It is respectfully submitted that the combination of Makino et al. and Allen et al. does not render unpatentable the presently pending claims for at least the following reasons.

Claims 24 and 25 ultimately depend from claim 16. As more fully set forth above, Makino et al. does not disclose, or even suggest, all of the features included in claim 16. Allen et al. also does not disclose, or even suggest, all of the features included in claim 16, and thus, fails to cure this critical deficiency.

Accordingly, it is respectfully submitted that the combination of Makino et al. and Allen et al. does not disclose, or even suggest, all of the features included in claim 16, from which claims 24 and 25 ultimately depend. As such, it is respectfully submitted that the combination of Makino et al. and Allen et al. does not render unpatentable claims 24 and 25, which ultimately depend from claim 16.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

### **IV. Rejection of Claim 26 Under 35 U.S.C. § 103(a)**

Claim 26 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Makino et al. and U.S. Patent No. 6,254,750 (“Patrick et al.”). It is respectfully submitted that the combination of Makino et al. and Patrick et al. does not render unpatentable the presently pending claim for at least the following reasons.

Claim 26 depends from claim 16. As more fully set forth above, Makino et al. does not disclose, or even suggest, all of the features included in claim 16. Patrick et al. also does not disclose, or even suggest, all of the features included in claim 16, and thus, fails to cure this critical deficiency.

Accordingly, it is respectfully submitted that the combination of Makino et al. and Patrick et al. does not disclose, or even suggest, all of the features included in claim 16, from which claim 26 depends. As such, it is respectfully submitted that the combination of Makino et al. and Patrick et al. does not render unpatentable claim 26, which depends from claim 16.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

**V. Rejection of Claim 27 Under 35 U.S.C. § 103(a)**

Claim 27 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Makino et al. and U.S. Patent No. 4,293,399 ("Belanger et al."). It is respectfully submitted that the combination of Makino et al. and Belanger et al. does not render unpatentable the presently pending claim for at least the following reasons.

Claim 27 ultimately depends from claim 16. As more fully set forth above, Makino et al. does not disclose, or even suggest, all of the features included in claim 16. Belanger et al. also does not disclose, or even suggest, all of the features included in claim 16, and thus, fails to cure this critical deficiency.

Accordingly, it is respectfully submitted that the combination of Makino et al. and Belanger et al. does not disclose, or even suggest, all of the features included in claim 16, from which claim 27 ultimately depends. As such, it is respectfully submitted that the combination of Makino et al. and Belanger et al. does not render unpatentable claim 27, which ultimately depends from claim 16.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

**VI. Rejection of Claim 28 Under 35 U.S.C. § 103(a)**

Claim 28 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Makino et al. and U.S. Patent No. 5,670,032 ("Frieese et al."). It is respectfully submitted that the combination of Makino et al. and Frieese et al. does not render unpatentable the presently pending claim for at least the following reasons.

Claim 28 ultimately depends from claim 16. As more fully set forth above, Makino et al. does not disclose, or even suggest, all of the features included in claim 16. Frieese et al. also does not disclose, or even suggest, all of the features included in claim 16, and thus, fails to cure this critical deficiency.

Accordingly, it is respectfully submitted that the combination of Makino et al. and Frieese et al. does not disclose, or even suggest, all of the features included in claim 16, from which claim 28 ultimately depends. As such, it is respectfully

submitted that the combination of Makino et al. and Friese et al. does not render unpatentable claim 28, which ultimately depends from claim 16.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

**VII. Conclusion**

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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